

This Page Is Inserted by IFW Operations
and is not a part of the Official Record

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images may include (but are not limited to):

- BLACK BORDERS
- TEXT CUT OFF AT TOP, BOTTOM OR SIDES
- FADED TEXT
- ILLEGIBLE TEXT
- SKEWED/SLANTED IMAGES
- COLORED PHOTOS
- BLACK OR VERY BLACK AND WHITE DARK PHOTOS
- GRAY SCALE DOCUMENTS

IMAGES ARE BEST AVAILABLE COPY.

**As rescanning documents *will not* correct images,
please do not report the images to the
Image Problems Mailbox.**

(12) UK Patent Application (19) GB (11) 2 352 628 (13) A

(43) Date of A Publication 07.02.2001

(21) Application No 9916474.1

(22) Date of Filing 15.07.1999

(71) Applicant(s)
Leanne Madders
3 Dane Place, WINSFORD, Cheshire, CW7 3LL,
United Kingdom

(72) Inventor(s)
Leanne Madders

(74) Agent and/or Address for Service
Leanne Madders
3 Dane Place, WINSFORD, Cheshire, CW7 3LL,
United Kingdom

(51) INT CL⁷
A45D 31/00

(52) UK CL (Edition S)
A4V V29B

(56) Documents Cited
GB 2014847 A GB 0985388 A WO 96/16568 A
US 5908035 A US 5699813 A US 5127414 A
US 4450848 A US 3786821 A

(58) Field of Search
UK CL (Edition R) A4V V29B
INT CL⁷ A45D 31/00
Online : EPODOC,WPI,JAPIO

(54) Abstract Title
Artificial finger nail

(57) An artificial finger nail is based on a transparent PVC or acrylic template to which are applied, on the concave undersurface, a pink-coloured coating in the region 4 and a white-coloured coating in the region between the edge 2 and an indicator curve 3 formed as an indentation or ridge on the template. The coating is a mixture of an acrylic polymer powder and acrylic liquid monomer. The region 4 is applied to a natural nail while the coating is still wet and is allowed to polymerise in situ to attach the nail. A decorative coating can be applied to and removed from the artificial nail without affecting the underlying pink and white colours.

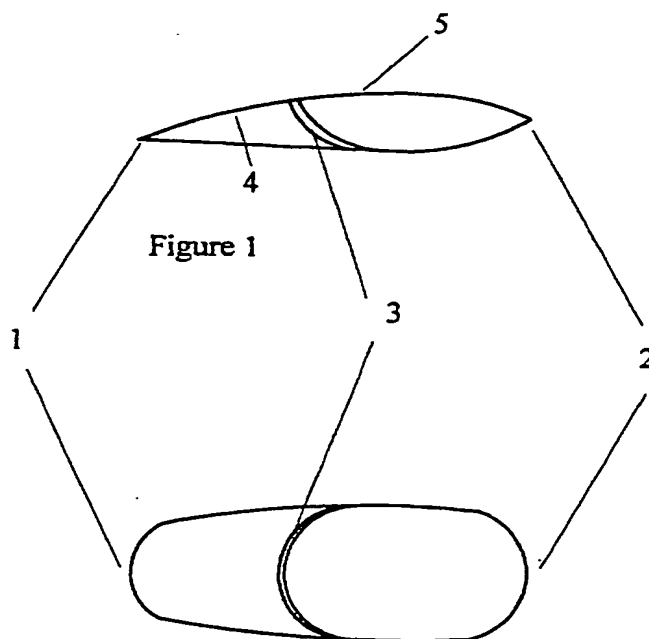


Figure 2

1/1

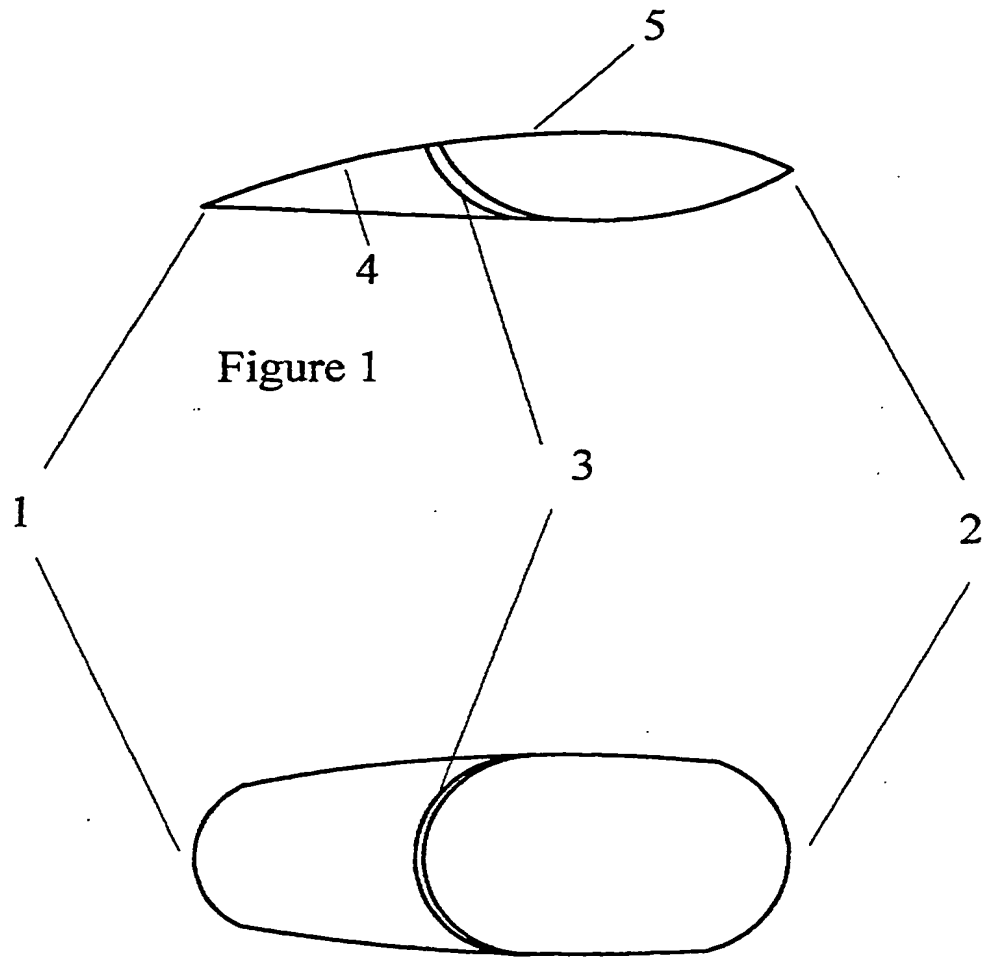


Figure 2

AN IMPROVED ARTIFICIAL NAIL AND ATTACHMENT PROCESS

Description of Invention

5 The invention relates to artificial finger nails.

A number of processes for producing and applying artificial nails to fingers or toes are well known.

Simple processes involve the production of suitably shaped nail forms in thin film materials demountably attached to a carrying sheet. The nail forms are simply
10 removed from the backing sheet and applied to the natural nail with liquid adhesive or adhesive pads. The nail forms are then coated with nail varnish.

Improved nail forms include grooves or slits or clips for attaching to the tip of the natural nail for additional strength of retention.

More complex processes are well known whose aim is to achieve a more natural
15 looking nail matched to the size and shape of the natural nail. These processes involve hand modelling an artificial nail by applying layers of a setting resin in co-operation with a mould or template fitted to the natural nail. Patent WO9523537 of P. Nermerich details a profiled template in co-operation with a mould to achieve a desired shape consistent with the natural nail characteristics. Setting of the resin is
20 accelerated by exposure to UV radiation. Patent DE4335527 of J.R. Panzer details an artificial finger nail made of acrylic resin which is modelled on the natural nail by applying a release agent, painting with an acrylic powder-liquid mixture using a template. The hardened resin nail can be attached to the natural nail with adhesive pads for repeated removal and attachment.

The and similar patents build up layers on top of the natural nail to provide desired natural looking shape and extension but have a number of disadvantages.

The process is time consuming, the use of adhesives, typically cyano-acrylate adhesive, can give rise to allergic reactions and can provide conditions for fungal growth, and such artificial nails do not generally have a leading 'white' part and trailing 'pink' part as natural nails do.

It is the object of this present invention to provide an artificial nail matched to the natural nail characteristics, which is easy to apply by a nail technician, has white and pink parts as natural nails do and which does not use separate adhesive for retention on the natural nail.

According to the present invention there is provided a means of selecting a desired shape of an artificial nail consistent with the characteristics of the natural nail, a means of realising pink and white parts of an artificial nail, a means of allowing decorative coatings to be applied and removed without affecting said pink and white parts, a means for attaching the artificial nail to the natural nail without using separate means of adhesion.

A preferred embodiment of the invention will now be described by way of example with reference to the accompanying drawing, Figure 1, which shows in side view and Figure 2 in plan, a nail template.

The nail template is suitably shaped as a concave ellipsoid to follow the curvature of natural nails. Said template may be formed as a sheet of templates the size of templates varying on the sheet, there being one or more lengths of template in combination with one or more widths of template in combination with one or more

depths of concavity of the template. Each template is partially cut around its periphery to facilitate removal from the sheet by hand pressure, or cutting.

Alternatively templates may be formed as individual items with variation in the size of templates, there being one or more lengths of template in combination with one or more widths of template in combination with one or more depths of concavity of the template.

The template material is thin, preferably being 0.20 to 0.25 mm thick, and in a transparent material, preferably Poly Vinyl Chloride or acrylic.

The leading edge 1 of the template has a curvature to assist shaping to the desired form, the trailing edge 2 of the template has a curvature to assist in shaping and fitting against the natural nail cuticle.

An indicator curve 3 which may be an indentation or a ridge, is formed on the concave surface of the template. This curve is of a suitable curvature to match the pink / white boundary of natural nails.

The template is attached to the natural nail using the following process. The natural nail is prepared with a primer, for example metulloid acid. A template is selected and shaped. Pink coloured acrylic polymer powder and acrylic monomer liquid are mixed together and, separately, white coloured acrylic polymer powder and acrylic monomer liquid are mixed. The white mixture is applied to the concave surface 4 of the template between the leading edge 1 and the indicator curve 3 and allowed to polymerise on the template until dry. The pink mixture is applied to the concave surface of the template between the trailing edge 2 and the indicator curve 3 and whilst still wet, is applied to the prepared surface of the natural nail and allowed to polymerise between the template and the natural nail until dry. The secured template is finally shaped and polished.

In contrast to other processes the wearer then has the hard wearing surface 5 of the transparent template through which the pink and white acrylic parts can be viewed to give the appearance of a natural nail. The template upper surface 5 may be covered with transparent or opaque decorative compounds if desired without affecting the natural looking pink and white parts below.

The indicator line indentation 3 assists the nail technician in the application of the white and pink compounds. Templates without said indicator line may be used by experienced nail technicians where the pink white boundary can be individually located.

10

An alternative embodiment can be realised by using an acrylic template of a shape hereinbefore described where the concave surface 4 between the leading edge 1 and the indicator line 3 has a white acrylic component attached as a prior operation. In this embodiment the indicator line indentation may not be present and the process of attachment to the natural nail uses only the pink acrylic polymer and monomer mixture as hereinbefore described.

15

CLAIMS

1. An artificial finger nail attachment using a Poly Vinyl Chloride or an acrylic based template which is strengthened with an acrylic liquid and powder mixture.
2. A white coloured acrylic tip is applied into the template as claimed in Claim 1 and allowed to polymerise (dry).
3. A pink coloured acrylic mixture is then applied to the tipped template as in Claim 2 and attached to the finger nail while the mixture is polymerising (drying), thus creating a bonding process opposed to the standard application of artificail finger nails using cyanoacrylate adhesives.
4. The template as claimed in Claim 1, vary in size to match the differing sizes of the natural nail.
5. A full description and illustration of the artificial finger nail can be found on pages 3 and 4 of the description of invention and appendix 1/1.



INVESTOR IN PEOPLE

Application No: GB 9916474.1
Claims searched: ALL

Examiner: R E Hardy
Date of search: 30 November 2000

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK CI (Ed.R): A4V (V29B)

Int CI (Ed.7): A45D (31/00)

Other: Online : EPODOC, WPI, JAPIO

Documents considered to be relevant:

Category	Identity of document and relevant passage			Relevant to claims
Y	GB2014847	A	KRISTY WELLS : See p.3 lines 49-53	1-4
Y	GB0985388	A	MOECKESH : See the Examples	1-4
Y	WO96/16568	A	COSMANIA : See p.4 lines 14-17	1-4
Y	US5908035	A	CARROL : See especially col 2 lines 28-42 and col 7 lines 23-40	1-4
Y	US5699813	A	CARROL : Whole document	1-4
Y	US5127414	A	MAST : See col 4 lines 55-61	1-4
Y	US4450848	A	FERRIGNO : See Example I	1-4
X,Y	US3786821	A	NOSKIN : See col 3 line 58 - col 4 line 18	1-4

X Document indicating lack of novelty or inventive step
Y Document indicating lack of inventive step if combined with one or more other documents of same category.

& Member of the same patent family

A Document indicating technological background and/or state of the art.
P Document published on or after the declared priority date but before the filing date of this invention.
E Patent document published on or after, but with priority date earlier than, the filing date of this application.